

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

8
2
23

THE FARM INDEX

U.S. Department of Agriculture/June 1972

The
Ups
and
Downs
of
Vertical
Coordination

DC BRANCH **STACKS**

Handwritten:
52 to 2 copies
of ERS 479
Beid
File



Handwritten: 11/6

U.S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY
RECEIVED

SEP 20 1972

PROCUREMENT SECTION
CURRENT SERIAL RECORDS

Early 1972 returns bear out this USDA projection. Realized net income of U.S. farms will top last year's \$15.7 billion, and could well smash the previous record reached in 1947.

Extending the first quarter's growth rate to the rest of the year, net farm income would jump \$3½ billion. That's not very likely to materialize, although the gain might be as much as \$2 billion—enough to establish a new high. In other words, the outlook calls for further, though moderating, improvement in net income from now on.

Livestock receipts will probably mount by around \$2½ billion from 1971's \$29.8 billion. Crop receipts are estimated about \$½ billion higher than last year's \$21.9 billion, plus some \$4¼ billion in Government payments.

Gross farm income is slated to rise around \$4 billion from last year's \$58.6 billion. Farm production expenses, considering Phase II economic programs and lower feed costs this year, won't grow as fast as in '71... maybe by \$2 billion over last year's \$42.9 billion.

Realized net income per farm could be up 15 percent or more from 1971's \$5,468 average.

What about late fall farrowings for hogs? Livestock economists are watching this one closely, because hog raisers react to price increases with some predictability.

"In the past," says ERS's May issue of the *Livestock Situation*, "pork producers have let higher returns run on for 6 months or more before taking steps to increase output." If that's so, "late fall farrowings this year will be down but probably not as much as the 7 percent for June-August. . . . But higher hog prices this year with lower corn prices will encourage producers to expand in the first half of 1973."

Meantime, and throughout most of '72 and perhaps till mid-1973, expect smaller slaughter supplies. Hog weights may remain fairly heavy and this will partly offset the drop in numbers of hogs slaughtered.

Farrowings in March-May, source of most of the fall slaughter supplies, will be down 7 percent from 1971, according to the March 21 Hogs and Pigs Report.

Total pig crop this year will also be off, but not exceptionally so. Even if sow farrowings are 7 percent fewer, the annual total would be greater than in 5 of the past 10 years.

Prices will peak in July and August—\$5-\$6 above the same months of '71—then to decline seasonally as slaughter supplies shrink. Prices for barrows and gilts at seven markets averaged around \$20/cwt. in October-December 1971. Prices this fall are apt to run a shade higher than last fall . . . unless breeders change their plans.

In early May, feeder pig prices were strong and the supply was limited. Prices will continue firm due to renewed interest in finishing hogs this year.

USDA's Broiler Marketing Guide advises growers to hold marketings in July-September to a 4-percent increase from the same quarter of '71. This way, the 9-city wholesale price would be "moderately above" the 28.5¢ per pound received in the third quarter of '71.

Lower feed prices and better broiler prices have stimulated output. Continued expansion could limit usual price increases this summer. If output is kept in check—not much above year-earlier

levels—prices would strengthen, USDA reports.

In a similar vein, turkey producers ought to think twice before going all out to up production. They too responded to higher turkey prices and lower feed charges by stepping up hatching activity. If growers keep on expanding, last summer's price rise might not be repeated in 1972. And, price gains this fall would be limited.

Consumers can look forward to tapering increases in food costs. Retail food costs will inch up in the months ahead, but not of the likes of early 1972. Some of the summer gains may be offset by decreases in the fall.

The all-food price index, for the year as a whole, is expected to rise 4 to 4½ percent. Much of this rise is already behind us, inasmuch as food costs in the January-March quarter accelerated 5 percent over a year ago.

Beef and pork will lead the advance for livestock products . . . poultry and egg prices will move up moderately . . . and dairy products will experience slower increases than a year ago.

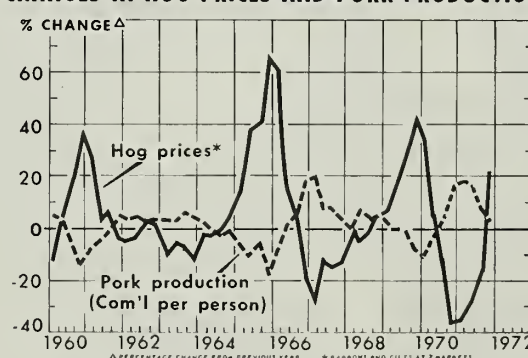
The per capita food use will remain at last year's record levels. Livestock consumption could be off slightly, but foods derived from crops may compensate. Declines, though, are anticipated for fats and oils, processed fruits, and coffee. Gains are likely for poultry, processed vegetables, and processed potatoes.

Farm prices of shorn wool have moved up rather sharply in recent months, but they still averaged low relative to the last 3 decades. Average prices at the farm gate recovered to about 30¢ a pound (grease basis) in mid-April from about 17¢ last December. For the year, prices will average well above 1971's 19.4¢—lowest since the Depression Thirties.

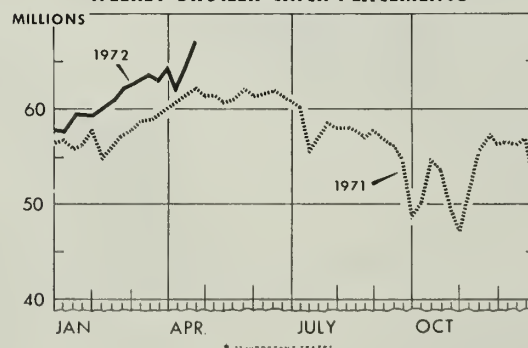
However, returns to U.S. producers on 1971 marketings of shorn wool and unshorn lambs are being supplemented this spring with increased payments under the National Wool Act.

Behind the recent upswing in farm prices—declining wool output in this country, a smaller world clip, and better demand. Mill use of raw apparel

CHANGES IN HOG PRICES AND PORK PRODUCTION



WEEKLY BROILER CHICK PLACEMENTS*



wool will probably pick up slightly in '72, after dropping 29 percent to 116 million pounds (scoured basis) in '71.

Mill activity has been spurred by the unusually low prices paid for raw apparel wool. Also, the overall demand has improved for the products of the apparel wool mills.

Growth in dairy farmers' gross income, which posted a 5-percent advance in the first quarter, is expected to slacken in response to slower increases in milk prices. Larger marketings, however, should push total 1972 receipts to near \$7 billion, compared with last year's alltime high of \$6.8 billion.

Milk output may expand around 1 percent from 1971's 118.6 billion pounds, assuming normal forage and pastures and a 2-percent climb in output per cow. Favoring production gains are a plentiful supply of herd replacements; an easier labor situation; favorable milk-feed price ratios; and the improved milk prices.

Carryover of fresh vegetables this season will be the smallest in years. The industry could probably handle a somewhat bigger pack with little difficulty. However, increases beyond the present acreage intentions could result in a price-depressing pack of frozen vegetables.

By the March-April intentions, producers of eight major processing vegetables said they'd up acreage by 3 percent. Tomatoes, and possibly sweet corn, were the leaders among the canning types. Largest gains for freezing vegetables are indicated for lima beans, snap beans, and sweet corn.

FARM

RURAL

CONSUMER

MARKETING

FOREIGN

Martin Schubkegel
Editor

Diane Decker
Diana Morse
Walter M. Patrick
Staff Editors

Contents of this magazine may be reprinted without permission. They are based on research of the Economic Research Service and on studies done in cooperation with State agricultural experiment stations. Use of funds for printing this publication approved by Director of the Bureau of Budget, May 24, 1967. Subscription price: \$2 yearly (\$2.50 foreign). Single copies 25 cents. Order from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Features

- 4 The Ups and Downs Of Vertical Coordination**
It advanced during the sixties, but not by much

- 8 Dear Diary . . .**
A peek into the daily life of an interviewer on a research project

- 12 Processed Poultry Comes of Age**
Where sales have been, where they're heading in what's called the "maturity" stage of a product's life cycle

- 14 Study Teams Tackle Commodity Problems**
Team approach marks new effort to improve farm marketing methods

- 17 Agri-World 72**
Capsule report on global agriculture—progress and problems

Departments

- 2 Outlook**
21 Recent Publications
22 Article Sources
23 Economic Trends

Numbers in parentheses at end of stories refer to sources listed at end of issue.

The Farm Index is published monthly by the Economic Research Service, U.S. Department of Agriculture. June 1972. Vol. XI. No. 6.

THE UPS AND DOWNS OF VERTICAL COORDINATION



The 1960's closed with vertical coordination moving up rapidly in some commodities but dropping back in others. Across-the-board coordination of farm output showed only a slight advance.

It's a case of appearance versus reality—observers sometimes get the impression that farmers are rushing headlong into new kinds of vertical coordination when in fact they're not.

By "vertical coordination," USDA refers to all the ways of harmonizing the successive steps or stages of production and marketing. Under this definition, a livestock owner who arranges for someone else to custom feed his animals is vertically coordinating. So is a poultry grower who builds his own feed mill.

Though dramatic gains in closer vertical coordination have marked some commodities, such as vegetables for processing, the records show that overall increases have been small. In 1970, 22 percent of total farm output was produced under contract or vertically integrated—just 3 percent more than in 1960.

Reasons for the small change are that many major commodities, particularly those with well-functioning open markets, remained unaffected. Also, some commodities like broilers were so closely coordinated before 1960 that there was little room for an upward surge. Finally, stepped up coordination of some commodities was partly offset by a decline in others.

The predominant form of close coordination practiced by farm firms is a type that may actually lead to new farming opportunities. Contract production, as it's called, accounted for 17 percent of all farm output in 1970—up from 15 percent a decade earlier.

The other main type is vertical integration. It made up only 5 percent of 1970 production—a minor gain from 1960's 4 percent. The two are basically alike in that they unite some of the vertical steps in the production and marketing of farm goods.

Vertical integration, however, re-

fers to a situation where two or more successive stages of production formerly handled by separate firms (particularly farm and nonfarm) are coordinated under one firm. For example, a lettuce shipper who begins growing his own lettuce is vertically integrating.

Contracting involves production agreements between separate businesses—specifically between farmers and processors, dealers, or others who are usually at the first stage before or after the farm.

Production contracts are sometimes referred to as forward contracts, as they're generally negotiated before the commodity is produced or the service is rendered. Vegetables are commonly produced under contract to canners or processors.

Because of the wide range of crop types and growing situations, the extent of either type of close vertical coordination varies widely from crop to crop.

Contract production of *food and feed grains* is largely limited to small acreages of special types. Some breakfast food firms contract for certain qualities of grain for cereals. Also, contract agreements are sometimes drawn up for special varieties of grain, such as high lysine corn and malting barley.

With few exceptions, such as a man who owns both an elevator and a farm, vertical integration is also negligible. Currently, less than 5 percent of all food and feed grain production is contracted or vertically integrated.

Dry beans and peas were once heavily contracted, but as they became established crops, production contracts became rather nominal arrangements. Contracting plunged from 35 percent of production in 1960 to 1 percent in 1970. Meantime, vertical integration held at 1 percent. Contracting could revive, however, if supplies of dry beans and peas suddenly tighten.

Potatoes showed mixed growth—contract production expanded as vertical integration declined. About

A Case for Contracts

Contract production can be like renting—both parties benefit from the agreement.

Processors and dealers often contract for crops and livestock, as such arrangements assure them a steady flow of goods to keep their plants and machinery operating efficiently.

On the farmer's side, one of the more important reasons for entering into production agreements is that he is assured an outlet for his products. This is particularly important if markets for his crop are limited, or if the commodity is highly perishable.

Contracts also take a lot of the guesswork out of production decisions, as they're often negotiated before the farmer commits any of his valuable resources.

There are several other good reasons for contracting. By bringing resources together, suitable contract arrangements may help the farmer: make more money . . . remain an independent operator . . . offset the risks of price and disease . . . obtain capital and credit . . . operate on a larger scale . . . get efficient technical assistance and information. (2)

nine-tenths of processing potatoes are contracted. Moreover, growth in potato processing during recent years has swelled the share of total potato outturn produced under contract.

Vertical integration steepened somewhat in the growing and shipping stages for fresh market potatoes, but the advance failed to offset the overall drop in integration of the potato industry.

The level of contracting and vertical integration in *vegetable* production picked up substantially during the sixties, though it was already high before then. As in the potato industry, nearly all vegetables for processing are closely coordinated. The emphasis is on contracting.

Close coordination in the vegetable industry protects both grower and processor. The grower can count on an outlet for his perishable crop, while the processor is assured a steady supply to keep his plant and machinery running efficiently.

About half of all vegetables for fresh market are contracted or integrated; but in this group, vertical integration is the dominant form.

The share of *cotton* produced under contract was relatively small up until 1970, when poor crop prospects and rising demand led to a tight supply situation. A sharp rise in contracting followed, particularly in the South Central Region. Early this year, an estimated third of the 1972 acreage was already under contract. Most of the cotton contracts contain price and grade specifications. (Cont.)

A THIRD OF LIVESTOCK OUTPUT IS COORDINATED

| Item | Production contracts | | Vertical integration | |
|--------------------------|----------------------|------|----------------------|------|
| | 1960 | 1970 | 1960 | 1970 |
| | Percent (estimated) | | | |
| Fed cattle | 10.0 | 18.0 | 3.0 | 4.0 |
| Sheep and lambs | 2.0 | 7.0 | 2.0 | 3.0 |
| Hogs | .7 | 1.0 | .7 | 1.0 |
| Fluid-grade milk | 95.0 | 95.0 | 3.0 | 3.0 |
| Manufacturing-grade milk | 25.0 | 25.0 | 2.0 | 1.0 |
| Eggs | 5.0 | 20.0 | 10.0 | 20.0 |
| Broilers | 93.0 | 90.0 | 5.0 | 7.0 |
| Turkeys | 30.0 | 42.0 | 4.0 | 12.0 |
| Miscellaneous | 3.0 | 3.0 | 1.0 | 1.0 |
| Total livestock items | 27.2 | 31.4 | 3.2 | 4.8 |

tions, as well as delivery dates.

Contracting and vertical integration expanded slightly more in livestock than crop production. Livestock products often require closer coordination, as they are generally more perishable and subject to quality variations.

Recent trends in the *fed cattle* industry have been toward larger commercial feedlots. Custom feeding is viewed as a form of contract production, as it's a service performed for ranchers, packers, and others who find it an efficient way to finish cattle for market.

An estimated 18 percent of fed cattle were finished under contract in 1970—up from 10 percent in 1960. Vertical integration advanced only 1 percent.

Closer coordination of the *fed sheep and lamb* industry also turned upward over the sixties, but remains at a low level. Unlike cattle, the number of sheep and lambs available for feeding has been declining for a long time.

The share of *hogs* produced and marketed under some form of close vertical coordination remains insig-

nificant. Packers, however, have shown interest in several types of contracts, particularly one aimed at helping farmers develop improved strains of meat-type hogs.

Among *dairy products*, fluid milk has long been produced under contract arrangements. In 1970, about 95 percent of all fluid-grade milk was contracted—the same as a decade earlier.

Between 95 and 100 percent of total *broiler* output became contracted or vertically integrated before 1960. As a result, changes over the sixties were minimal, though a small share of broiler production formerly under contract shifted to vertical integration. (1)

Can Dairymen Compete For Hired Labor?

Help wanted: Modern dairy farm desires full-time employee. \$10,000, 40-hour week, 2-week vacation with pay, 6 paid holidays. Insurance coverage and retirement plan.

Ads like this could become commonplace a few years hence in the Lake States, a new ERS study indi-

cates. The reasoning is that tomorrow's dairy farmers will need to use at least one full-time worker if they're to take advantage of new dairy technology and opportunities for higher income.

But those in the labor market won't be knocking on farmers' doors for jobs under today's working conditions and low wage rates. To compete for skilled workers, dairymen will need to consider not only greater financial inducements and fringe benefits, but they may also have to give thought to recruitment and training programs.

Under what circumstances can farms afford to offer these incentives?

The recent ERS study, based on estimated 1975 conditions in Minnesota, says an efficient dairy farm uses a herringbone milking parlor, houses the herd on a manure pack in open loose housing or cold free stall facilities, and mechanically feeds silage from upright silos. Among other assumptions in this analysis were: all buildings and equipment are new and built to avoid any excess capacity; farm machinery is mostly owned; and at least four-fifths of the gross farm sales come from the dairy enterprise.

The operator of this farm has 126 dairy cows. In 1975, he could pay an estimated \$13,000 per year for a full-time hired worker—with milk prices figured at \$5/cwt., milk production at 14,000 pounds per cow, and allowing a return to operator's labor and management of \$25,000.

Ability to pay full-time employees was found to be extremely sensitive to changes in milk prices. For example, by reducing the price to \$4.50/cwt. (or reducing production per cow to 12,000 pounds), the operator could pay only about \$3,900. Increasing the milk price to \$5.50/cwt. (or increasing the production to 16,000 pounds per cow) would enable him to pay \$22,000 to a full-time worker.

Variations in crop yields influence what an operator can pay. However, the use of custom harvesting services

COORDINATION OF CROP OUTPUT: MIXED GROWTH

| Crop | Production contracts | | Vertical integration | |
|-----------------------------|----------------------|------|----------------------|------|
| | 1960 | 1970 | 1960 | 1970 |
| | Percent (estimated) | | | |
| Feed grains | 0.1 | 0.1 | 0.4 | 0.5 |
| Hay and forage | .3 | .3 | — | — |
| Food grains | 1.0 | 2.0 | .3 | .5 |
| Vegetables for fresh market | 20.0 | 21.0 | 25.0 | 30.0 |
| Vegetables for processing | 67.0 | 85.0 | 8.0 | 10.0 |
| Dry beans and peas | 35.0 | 1.0 | 1.0 | 1.0 |
| Potatoes | 40.0 | 45.0 | 30.0 | 25.0 |
| Citrus fruits | 60.0 | 55.0 | 20.0 | 30.0 |
| Other fruits and nuts | 20.0 | 20.0 | 15.0 | 20.0 |
| Sugar beets | 98.0 | 98.0 | 2.0 | 2.0 |
| Sugarcane | 40.0 | 40.0 | 60.0 | 60.0 |
| Other sugar crops | 5.0 | 5.0 | 2.0 | 2.0 |
| Cotton | 5.0 | 11.0 | 3.0 | 1.0 |
| Tobacco | 2.0 | 2.0 | 2.0 | 2.0 |
| Oil bearing crops | 1.0 | 1.0 | .4 | .5 |
| Seed crops | 80.0 | 80.0 | .3 | .5 |
| Miscellaneous crops | 5.0 | 5.0 | 1.0 | 1.0 |
| Total crops | 8.6 | 9.5 | 4.3 | 4.8 |

has little influence.

Year-round utilization of full-time labor depends heavily on the availability of family and/or hired seasonal workers. Total return to operator's management and labor, plus the return to the full-time worker, drops from \$38,000 to \$25,000 when no seasonal labor is available. (4)

Missouri Farm Study Looks at 5-Year Changes

When the Missouri Agricultural Experiment Station and ERS looked at changes in Missouri farms over a period of 5 years, they found:

✓Total farm capital investment climbed 46 percent between 1965 and 1969;

✓Production value was up 13 percent;

✓Work accomplished was up 15 percent;

✓And labor time had remained constant.

Selected for the study were farms that had complete financial records for both 1965 and 1969 and had participated in the mail-in farm record program of the University of Missouri. As it turned out, the 124 farms that met these standards were larger than the average Missouri farm. Their production value per farm

averaged \$49,000 in 1969—up from \$43,000 in 1965.

Total farm capital investment managed by all of the farm operators had risen from \$163,600 in 1965 to \$238,500 in 1969. While land was the largest investment item, machinery and equipment investment had increased the most—nearly 63 percent. Grain-beef farms had the highest average investment (\$294,500), with grain farms next (\$287,600).

While the farms used an average of 2.1 man-years of labor in their operations in both years under review, the amount of work accomplished, measured in productive man work units, had gone up 15 percent. This was apparently due to use of more efficient technology and increased mechanization. (3)

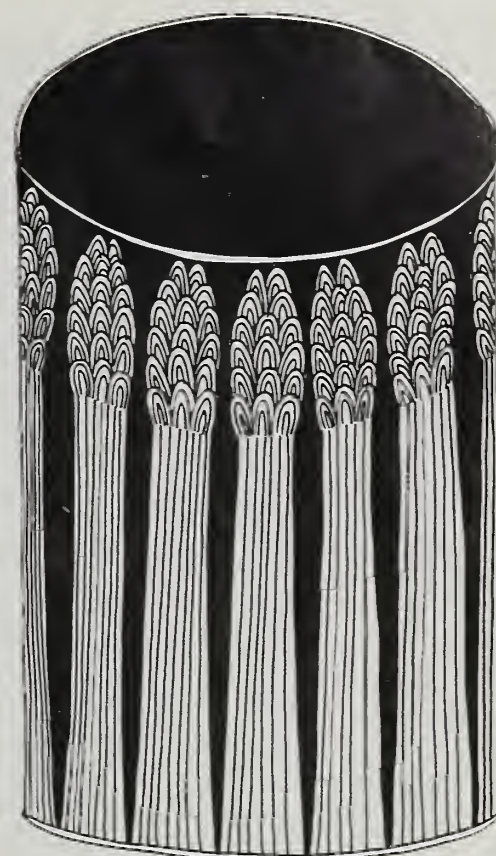
Machine Harvesters Move Into Asparagus Field

Asparagus is a \$10-million-dollar crop in Washington—one reason why growers in our No. 2 asparagus State are paying close attention to mechanical harvesters as labor shortages increase.

One economic study makes these comparisons of hand and machine harvesting in Washington:

HAND METHOD. Yield per harvested acre was found to be highest here, reaching a peak of 3,600 pounds in the bed's 11th year. Variable harvesting costs were also the highest—by more than \$100 an acre compared to costs of machine harvesting for the life of the bed.

NON-SELECTIVE HARVESTER. This machine cuts all spears at ground level, including the short, unmarketable spears. Hence, yield per acre is lower than when using hand harvesters who cut the spears 2 inches below the surface. This harvester had the lowest variable costs, and the greatest potential gain in efficiency—if it can be made to harvest asparagus of acceptable quality. Harvesting costs per acre dipped about 75 percent when the machine operated near its 262-acre capacity compared to the 20-acre average bed



size in Washington. The machine travels twice as fast as the selective harvester and requires only 18 cuts per acre.

SELECTIVE HARVESTER. It cuts only those spears 4½-inches or longer. As with the non-selective harvester, it cuts at the surface and cuts some asparagus that's unmarketable. Harvesting costs are nearly twice those of the non-selective harvester for a 20-acre bed. Seasonal capacity is 46 acres per machine.

The future of the machines is in picking asparagus for the processing market. There, they can make up for the poorer quality of some harvested asparagus by cutting additional acreage. The initial outlay for the machine is relatively low, and the producer can expand his acreage with a relatively small increase in capital expenditures.

The machines now available may never replace the hand harvester for the fresh asparagus market, which uses 9-inch spears compared to the 5½-inch or shorter spears that machines cut.

The study also determined optimal life of a Washington asparagus bed at 17 years for hand- or non-selective machine harvested, and 16 for selective machines. (5)

Nipping Newcastle

The poultry-rich San Bernadino Valley in California is home to the Santa Anna winds. When they struck in late December, with gusts up to 100 mph, the winds blew feathers and dirt bearing "exotic" Newcastle disease for miles down the valley. This contributed to the worst outbreak of exotic Newcastle ever to hit U.S. laying flocks.

Exotic Newcastle generally has not struck the Nation's broiler industry, but the result would be devastating. To prevent the disease's spread, a group of poultry science advisers has come up with a nationwide vaccination program.

Producers are urged to contact their veterinarian, extension agent, or animal health officer to get the prescribed vaccination schedule. (24).



With all the tenacity of a bulldog, and all the charm of a Circe, the interviewer managed to finish up her part of the research project and head home.

She had interviewed employers—some enthusiastically cooperative, some not. She had walked a tight-rope between management and union to talk to workers. She had stuffed questionnaires into envelopes into the wee hours on weekends and met 3 a.m. shifts to hand them out.

One of the top professional interviewers in the country for economic and social research projects, she's given credit for "getting the information, it it's to be had," and she gets it 98 percent of the time.

But here she was, writing in the diary she keeps:

Wednesday, December 16

Checked out of motel and headed home, disgusted and dissatisfied—always wonder if there isn't some one other thing that might have been done...

Interviewing, one of the basic parts of economic and social re-

On the road with a professional interviewer (via her diary) shows the road to research can be quite bumpy—but facts gained greatly enrich our policies and programs.

search, is perhaps one of the most frustrating.

But there is a core of professional interviewers—many stationed at universities—who are on call to go out to the business community to inquire about job opportunities; into poverty areas to talk to families and fill out survey questionnaires on income, jobs, family size, education; into communities to measure the costs and effects of a school lunch program.

It's their job to reach the people that the initiators of the study want reached... to edit the questionnaires to be sure they make sense... and to go back, again and again, if necessary, to get them filled out accurately.

Invariably, the initiators of the study will join in some of the inter-

viewing. Perhaps, ideally, they would do all the interviewing, but it's often just not feasible, comments a member of one ERS division where many of these studies originate.

One way they get a "you-are-there" feeling is through the diaries that interviewers keep. Not only do the diaries depict the day-to-day problems that the researchers would otherwise never know about, but seemingly trivial notations can prove significant later, sometimes explaining inconsistencies in interviews.

A snowstorm recorded in a diary might explain why one company's absentee record was extremely high during a survey while other companies interviewed had average rates of absenteeism. A note about tension between labor and management might explain lack of cooperation at one plant. The illness of a key contact may be the reason why progress was slow at another.

One ERS'er explains he keeps a diary because "it helps me plan the next study better. I know what got accomplished in any one day."

All of the information gained flows in one direction—toward the completed study that may be for a Congressional committee, for background on effects of a proposed program, for evaluation of a program in progress. The purposes of such research are threefold: so that policymakers can make better decisions; so officials can conduct more efficient and effective programs; and so the public can be better informed.

Take for example a series of four poverty studies ERS worked on.

The purpose was to see just what would bring people out of the poverty chain.

"We found no single approach

Out on the Road . . .

The top interviewers seem to have several characteristics in common: an ability to judge people . . . a thorough knowledge of what information they need to get and why . . . and . . . they're very persuasive.

You might add to that the spunk reflected in this diary notation: "Looks to me like the 'end of the rope' is near, but I'll get something out of that place . . ."

Sometimes their problems are as basic as locating an address or finding a phone that works. In many rural regions where studies are made, roads and houses aren't clearly marked and offer a real challenge to the interviewer's navigational skills . . . especially when directions are "It's up there a ways. You can't miss it."

Another interviewer found that phones at her motel were not only out of order, but no one remembered ever having reported the lines were dead. Unable to make or receive calls she needed to finish her survey, she scouted out a repairman in the small town.

This same interviewer, when she got home, found her family had tried to call her at the four motels where she had stayed. All claimed she had not been there, had no reservations, nor had anyone who looked like her stayed there recently.

"Sure glad I had my motel receipts, or I'd have wondered where I'd been," she commented.

would lift a family out of poverty," an ERS official explains. "It takes a series of things, all coordinated."

They found through first-hand interviews that the head of the household in a poor family frequently had a combination of handicaps: disability, limited education, living in an isolated area with limited opportunities, perhaps being from a minority group.

Take the example of a woman, in her mid-forties, who has a 7th grade education and is head of a household.

To help her, a poverty program would need several approaches. Her children would need to be cared for. She would need some basic education as well as job training. She would need placement service, and possibly transportation. And all the while, some type of welfare would be needed so she could undertake the training.

All this couldn't be documented without the interviews that formed the foundation for the studies. (6)

States Move To Fill Rural Zoning Gaps

Sometime, in the life of most communities, there emerges an issue that makes a planning and zoning commission meeting the site of the hottest controversy in town.

That happens more and more in rural areas, especially near the urban fringe. However, only about a fifth of rural counties have zoning laws—despite the fact that about four-fifths of all counties in the U.S. are authorized by their States to enact zoning laws.

Spurred on by increasing need for planned growth in the countryside, State legislatures have tended in recent years to grant zoning authority to State agencies or to enact zoning ordinances themselves. A new ERS study shows this has happened in 18 States.

In Hawaii, for example, zoning to protect agriculture is done at the State level. Prime agricultural lands are placed in agricultural zoning districts, and forest and watershed lands into conservation districts.

State agencies have the power to zone flood plains in Iowa and Minnesota . . . coastal wetlands in Rhode Island . . . unorganized boroughs in Alaska . . . shorelands in Minnesota and Vermont . . . and flood plains and shorelands in Wisconsin. The State highway commission in Mississippi can establish and enforce setback regulations. Similar State agencies in Louisiana, Maryland, Minnesota, Montana, Oklahoma, and Wisconsin can zone certain roadsides. And in South Dakota, the legislature zones selected roadsides.

In Oregon, effective the beginning of this year, the governor has the power to zone any land not zoned by a local government.

In Maine, a land use control commission has authority to provide planning, zoning, and subdivision regulations in unorganized townships for all areas within 500 feet of public roads or certain lake and pond shorelands.

Related to the trend toward direct zoning by States is the development of regional agencies with zoning authority.

Purposes of regional planning and regulation include prevention of urban sprawl, provision for major areas of open space, and protection for the agricultural base of local processing industries and service trades.

California and Nevada recently authorized an interstate regional agency to plan and establish zoning for the Lake Tahoe Basin, which includes parts of two counties in California and of three counties in Nevada. In North Dakota, metropolitan or joint planning commissions are given the power to zone the planning area by agreement between local governments. One of the advantages of comprehensive planning is that it ensures more orderly, equitable, and logical community growth.

Legislatures in another seven States have enacted zoning innovations for flexibility in grouping residential buildings and open spaces to fit natural and topographic features of the area under development. (7)

People, Bears Bring On Landfill Legislation

Badgered by bears, and squeezed by urbanites, Wisconsin's trash problems wound up in the legislature—where this year, a new law was enacted to promote countywide sanitary landfills.

The problem had been twofold: in the north, bears were regular customers at the open dumps most of the small communities had, and a nuisance to local residents. In the south, large cities such as Madison had run out of rural places to dump their trash.

The new legislation, for the first time in Wisconsin's history, allows counties to establish and operate countywide solid waste disposal systems either alone or with other counties or communities.

Now, rural areas that don't have the finances to meet State standards for sanitary landfills can join together and operate one. County equipment, such as graders and caterpillars, can be used in the landfill operation.

And urban areas such as Madison can go together with smaller communities to operate a sanitary landfill. One of the problems large cities in the State had faced was that they had run out of land for dumping trash, and couldn't buy land outside the city because local townships wouldn't issue a permit for a landfill operation. The new statute exempts from local permits those sites meeting State standards and operated by governmental agencies under an approved county plan.

Even without a State-approved county plan, a site can be licensed by the Department of Natural Resources under certain conditions. State licenses supersede all local requirements, except that the municipality where the site is located may levy an annual permit fee not to exceed \$100 per site.

Counties are given the power to appropriate funds and levy taxes for both capital and operating expenses for their solid wastes. Communities

that operate their own collection and disposal facilities don't have to join a countywide system and are not subject to tax levies for operating costs, though they can be taxed for capital costs.

The area-wide approach Wisconsin has taken to solid waste management provides operating efficiency, reduces costs, permits flexibility in site location, allows greater coordination in air and water pollution abatement than independent projects, and offers greater possibilities for receiving Federal assistance. (8)

Urbanites Outnumber Farm Residents, 21 to 1

There was a good chance in 1920 that 1 out of every 3 people you knew was living on a farm.

Today, the odds are up to 1 in 22.

That's the latest estimate given by the Census Bureau and ERS of our 1971 farm population. America's farm population dipped to 9.4 million persons—287,000 fewer than the year before. During 1960-70, the decline in the number of farm residents averaged about 100,000 less in the last half of the decade than in the

first half.

The drop in farm population since 1960 has been at an average annual rate of 4.6 percent.

However, the average annual decline has been steeper among Negroes and other races (10 percent) than among whites (4). There were about 884,000 Negroes and other minority race members in the farm population in 1971—9 percent of the total.

The report also shows a decline in the proportion of children in the farm population and an increase in the proportion of persons 55 or older. Children accounted for 25 percent of the farm population in 1971—32 percent in 1960, and older persons, 24 percent—up from 18 percent in 1960.

Men still outnumber women in the farm population—by about 300,000 in 1971.

Among farm residents 14 years and over, about 3 persons in 5—a total of 4.3 million persons—are in the labor force, but only about 54 percent (2.3 million) are employed in agriculture. This is a sharp drop from 1960 when 64 percent (4 million) were in agriculture.

Unemployment was relatively low among farm residents: 2.5 percent in 1971 compared to 6.2 percent for the rest of the civilian population.

However, unemployment was higher among Negro and other minorities living on farms—around 7 percent compared to 2 percent among whites. In the civilian population living off farms, unemployment was over 10 percent for Negro and other minority races and nearly 6 percent for whites.

Of the farm residents employed in agriculture, nearly 60 percent were self-employed. However, among women, 3 out of 4 were employed as unpaid family workers.

Of the two major racial groups, the class of worker distribution also differed greatly. About 60 percent of white farm residents working in agriculture were self-employed, compared to less than 30 percent of Negro farm residents.

There are fewer farm residents

Charting Rural Growth

Where are all the people going—back to the farm, to the cities, or are they staying put?

How do earnings in metropolitan areas stack up with wages in rural areas?

Has the quality of rural housing kept pace with national trends?

The answers are in the *Rural Development Chartbook*, ERS 500, published by USDA's Economic Research Service.

Included in the 44-page publication are 28 charts and tables with supporting data that provide background and historical information on a wide variety of urban and rural issues.

For free copies of the *Rural Development Chartbook*, write OMS, Rm. 1459, U.S. Department of Agriculture, Wash., D.C., 20250. (10)

employed in agriculture today, but the proportion of nonfarm residents among agricultural workers has been increasing. Nearly 2 out of every 5 persons employed in agriculture do not live on a farm—a substantial increase from 1960 when the ratio was 1 in 4. (9)

Food Stamps Generate Jobs, New Business

Besides their obvious benefits to poor families, bonus food stamps are helping economies of rural areas.

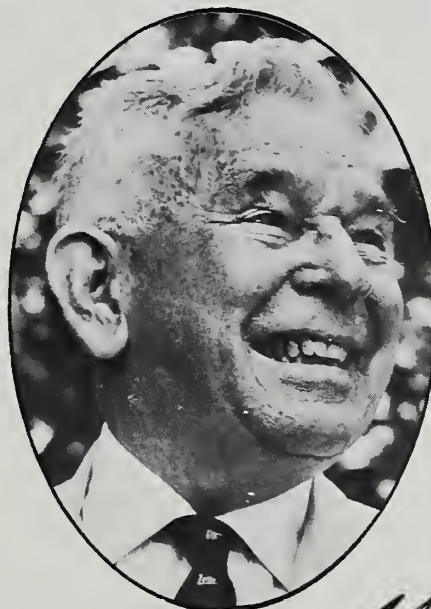
A USDA study of three counties in the Food Stamp Program found that for every dollar's worth of bonus stamps issued, \$1.20 to \$1.68 worth of additional business was generated in food retailing and other sectors of the economy.

The study areas included Haywood County, a small rural county in Southwestern Tennessee; Appanoose County, a moderately depressed farming area in Southern Iowa; and Chaves County, a diversified rural-urban county in New Mexico.

Haywood County, the smallest and poorest of the three, had the largest Food Stamp Program. Virtually all the 100 food stores in the county took part in the program. In the year under review, the \$1.2 million in bonus stamps had an impact of about \$1.5 million on the economy, and was capable of producing 60 new jobs. Food stamp sales represented a third of all food sales.

Appanoose County had the smallest program. Of the 52 food retailers in the county, 43 accepted food stamps. The bonus stamps, valued at \$184,000, generated over \$250,000 for the local economy and created 11 jobs. Total value of food stamps equaled 5 percent of all retail food sales and 1.2 percent of total household income.

Chaves County issued over \$870,000 in bonus stamps that brought \$1.5 million in economic activity. About 53 of 75 food retailers took part in the program. Food stamps represented 5 percent of retail food sales, 1.2 percent of total home income, and 59 additional jobs. (11)



Men and Milestones

OUTSIDE GREENSBORO, N.C., Summer, 1914 — Politicians privately label editor Clarence Poe "the most dangerous man in North Carolina."

If Clarence Poe was dangerous, it was only to politicians and only because of the immense following he built up as a farm champion and friend of the South.

He was born in 1888 on a farm in Chatham Co., N.C. and at 16 he became assistant editor of the *Progressive Farmer*, then a struggling weekly with a circulation of no more than 5,000. Two years later the owners named him editor-in-chief, and in 1903 he bought the magazine.

Thus began an association that lasted 67 years during which the *Progressive Farmer* jacked its subscription list to almost one and a half million and emerged as one of the country's foremost farm journals.

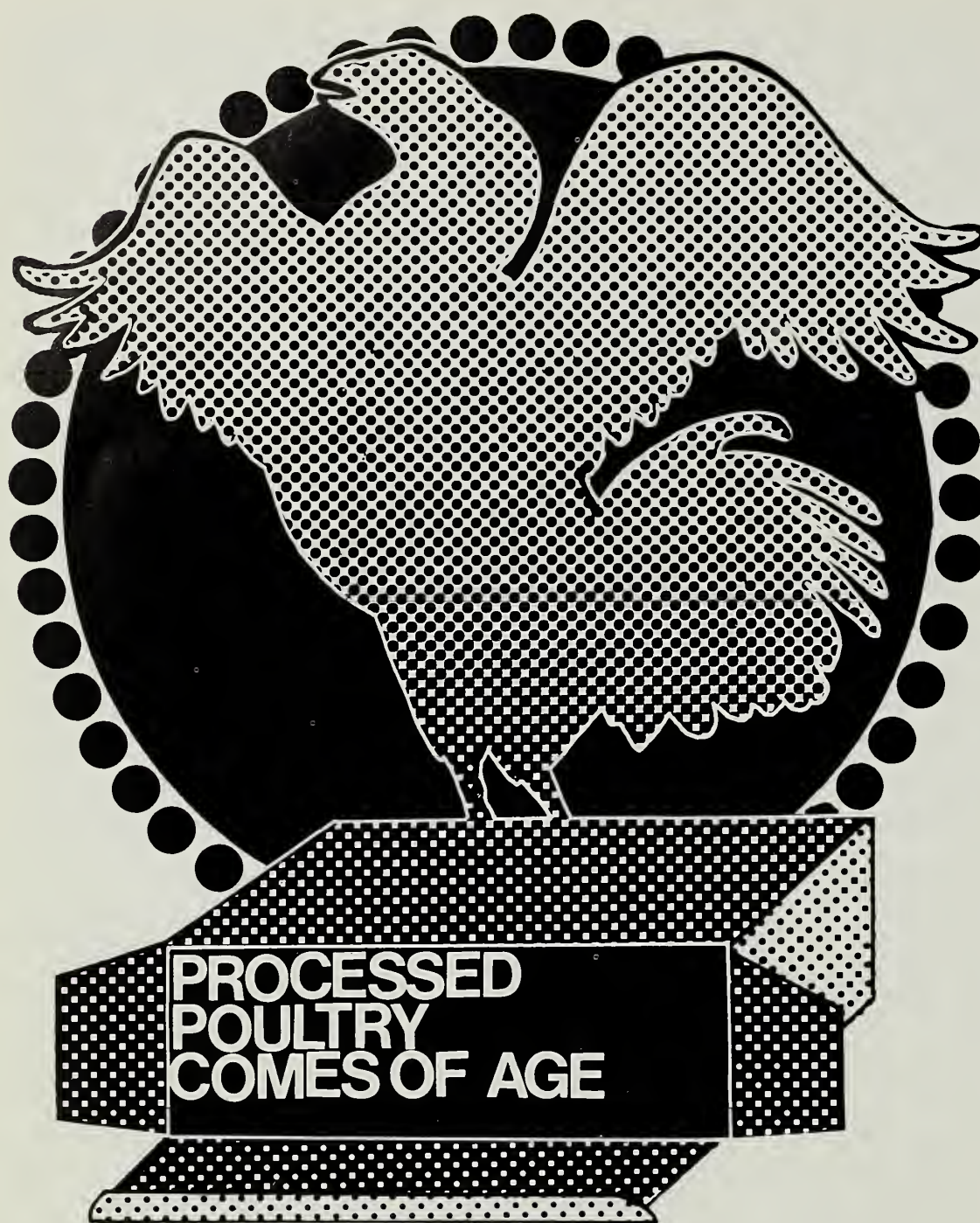
Under Poe it was a crusading magazine, dedicated to spearheading reform in Southern agricul-

ture and living standards.

Its editor drove home the need for better rural schools and served as chairman of North Carolina State College. He helped organize the North Carolina Conference of Social Service and sat as a member of the Child Labor Committee. He was an early advocate of soil conservation and extension work.

Resisting calls to enter the political arena, Poe nevertheless was a friend and counselor to Presidents. Wilson was urged to nominate him Secretary of Agriculture (though Poe withdrew his name); Hoover sought his advice during the Depression; Franklin Roosevelt appointed him a member of the Committee on Farm Tenancy and the Federal Board of Vocational Education; Truman named him to the International Development Board.

Poe died on October 8, 1964, the recipient of 5 honorary doctorates. With his passing, the Nation lost one of the finest examples of a hard hitting, humanitarian farm editor. (12)



Processed poultry sales have shot skyward since the early fifties and the rise of convenience foods. Now, poultry's in the "maturity" phase of a product's life cycle, a time when sales growth tapers.

The year is 1950. Processed poultry products rank low in the popularity polls with the average American.

About this time a new line of merchandise makes its debut in the frozen food case—meat pies and TV dinners, many of them featuring chicken and turkey. Processed poultry sales suddenly come alive.

Since the mid-fifties, sales of all

types of poultry convenience foods have mushroomed at an average rate of nearly 15 percent a year. Their retail value is now estimated at nearly \$1.5 billion, a sevenfold increase from 1955.

Chicken platters have cornered more than a third of the retail market for frozen dinners, with another fourth held by turkey and gravy combinations. Of meat pies, about two-thirds are turkey and chicken. Other mainstays in the processed line, bought by institutions as well as retail outlets, include roasts and rolls, prefried or breaded birds and parts, soups, stews, dumplings, baby foods and other specialties.

Since 1955, consumption of all forms of processed poultry has risen from barely a pound per person to upwards of 6 pounds.

The processing industry has a good thing going, but there's some question as to whether consumers will continue to up their buying at the fast clip of recent years.

According to one ERS economist, poultry convenience foods have entered a certain stage of a product's life cycle in which sales gains start to moderate.

The product life cycle has five stages. The first is the "introductory stage;" sales increase very slowly if at all. Next is the "rapid growth stage;" sales and profits rise steadily. In stage 3, called "maturity," sales growth tapers. This is followed by the "saturation stage" and a leveling off of total sales, and finally, the "declining stage," where sales slump and profits sink.

Poultry products have long gone beyond the introductory stage. That was with us during the postwar period up until around 1956. Sales were unimpressive for many reasons, including delayed technological developments, lack of capacity to produce a full line of poultry items, and an inadequate system of distributing the products to the users.

Sales and production really took off—i.e., the rapid growth stage—about the time frozen meat pies and TV dinners came on the scene in the mid-1950's. Convenience foods in general won widespread consumer acceptance. During this period, too, the institutional trade began to buy ready-to-cook poultry products.

In the early 1960's, several new products were developed to give tremendous vigor to the rapid growth stage. Turkey rolls, for one, became an important product in the institutional market. And in 1964 entered turkey roasts—a boned packaged roast tailored for home use. An instant success, roast sales soared fivefold in the short span of 4 years.

Also in the first half of the sixties came mass production of breaded and pre-cooked poultry parts, followed by

frozen entrees and other specialty products like chicken gravies.

Signs are the industry has passed the rapid growth stage and is now in the "maturity stage" when sales gains start leveling. For one thing, there are now more private label brands, as opposed to only a few brand name products—an indication that a product is in the maturity phase. This stage can last for many years, especially if new poultry products continue to appear and/or the costs of raw materials decline.

In the saturation stage, substitutes come along to compete with the standby products. This stage seems years away for processed poultry, although new foods or vegetable proteins may ultimately replace certain poultry products.

There are several other ways to measure the market potential for poultry. Taken together they indicate that the per capita use of processed poultry products will reach 9 or 10 pounds by 1980, always depending on population changes and the tastes and preferences of people with rising incomes. Production of processed poultry meat could then be expected to climb to around 2 billion pounds within the next 10 years, up from an estimated 1.3 billion at present.

Whether or not these projections are borne out, it is likely that consumers will pay relatively less for processed poultry foods as the products move further along in the classic life cycle.

Prices for chicken and turkey pies, to illustrate, were as high as 40¢ per package when first introduced in the early 1950's. Since then, thanks to the increased demand plus improved techniques of mass production, retail prices of these pies have been cut in half.

Both chicken and gravy and turkey and gravy combinations have had significant price declines, probably reflecting the general downward trend in poultry meat prices in recent years. Cooked and diced turkey meat also fell in price—by 15-20 percent since 1967—though cooked and diced chicken meat went up.

Price levels through the years have been more stable for such specialty items as chicken a la king, chicken croquettes, chicken and noodles, and fried chicken. Even so, compared with price increases for other convenience foods, most processed poultry foods continue to be a "best buy" at the supermarket. (13)

Carefree, Durable Textiles Favored by Homemakers

Most housewives place durability and ease of care above all other considerations when shopping for selected household textile goods.

This fact and others relating to the purchase of fiber materials comes from a USDA survey of 2,489 homemakers. The study was designed to provide the cotton and wool industries and USDA with guidelines for product research and improvement based on consumer needs.

In the blanket line, the top choice of homemakers was synthetic fabric, followed by cotton. A large majority of all segments of the population reported the use of regular blankets in the past year. Much smaller proportions indicated that they had used thermal or electric blankets. Thermal and electric blankets were reported used by larger proportions of the better educated and those in the higher income brackets. Younger homemakers and those with larger families were more likely to have used thermal blankets.

Most respondents seemed to favor fiberglass for living room curtains and draperies. However, nylon, fiberglass, and cotton curtains were reported used by about equal proportions of homemakers.

All acrylic, all nylon, or all wool were the most popular choices for room size rugs because "they looked good for a long time" and were easy to maintain.

Over three-fourths of the homemakers reported they had used scatter rugs in their homes. Two-thirds had used them in the bathroom, with cotton holding the inside track on type of material preferred

for bathrooms. Cotton scatter rugs cited for their desirable care and laundry characteristics were faulted mostly for their tendency to slide and wear out quickly. Acrylic was the most popular fiber for bedrooms.

Cotton and linen were the only two fibers mentioned with any degree of frequency by respondents for use as tablecloths.

The use of bedspreads was almost universal. Of the three types—chenille, tailored, and woven—chenille was more likely to be used.

And, cotton was the leading choice of homemakers for sewing. (14).

One Generation Ago, Eggs And Chickens Cost More

Ready-to-cook fryers and eggs offer bargain buys at the store compared with the prices consumers faced 20 years ago.

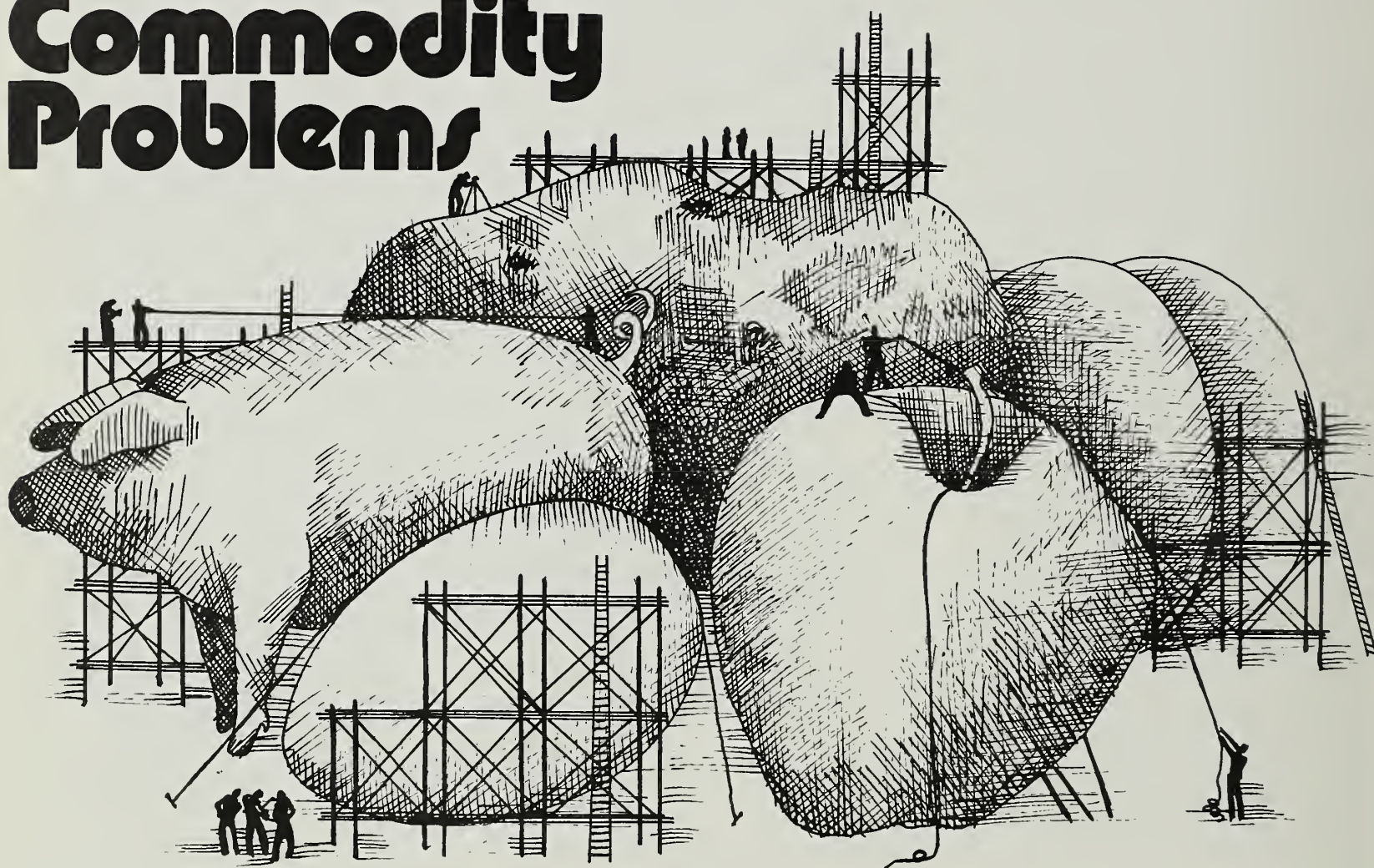
ERS reports on farm-retail spreads for food show that fryers averaged 41¢ a pound at retail in 1971, down from 60¢ 20 years ago. During this period the farm value for the quantity of live chicken equivalent to a pound at retail declined from 40¢ to 19¢. In contrast, marketing spreads widened by 2¢.

While both farm value and retail price generally were highest in winter and lowest in the fall, this variation within the year was much less in the 1960's than in the 1950's.

The price of eggs fluctuates greatly, though the trend in the 1950's and 1960's was generally down. In 1953, the first year for which retail price averages are available for U.S. Grade A large eggs, the price was 70¢ a dozen; in 1971, the average price was 53¢. The farm-retail spread stayed around 21¢ until 1970 when it increased to 23¢. Returns to egg producers dropped from 49¢ in 1953 to 30¢ in 1971.

Automation, changes in the organization of production and marketing, and other gains in efficiency explain most of the price decreases, the downward trend in farm values, and the moderate widening of farm-retail spreads. (15)

Study Teams Tackle Commodity Problems



Study teams formed by USDA are investigating ways to improve the farm-to-market flow of several commodities in a thrust to upgrade farm income.

The teams are part of a program announced last February by the Secretary of Agriculture. Their assignment: to pinpoint and develop solutions for the marketing problems facing some of our major commodities.

To date, teams have been named to study problems in the production and distribution of eggs, pork, apples, canning peaches, and pota-

toes. These commodities share a host of marketing maladies, including oversupply, dwindling foreign and domestic markets, and variable returns to farmers.

Study teams will be announced for other commodities as the program progresses.

In concept, the study teams are patterned after think tanks, which pool the know-how of experts in various fields to set a particular problem in perspective and develop meaningful policies.

Most team members are drawn from USDA agencies, although

State, college, extension, farm and industry representation is also included. Typical teams include marketing experts, trade association representatives, economists, and foreign market specialists.

They'll report their findings and recommendations to the Secretary later this summer.

In the meantime, the study teams are contacting farmers, trade and industry associations, agribusinessmen, cooperatives, State departments of agriculture, extension agents, universities, growers, and consumers. In short, the teams hope to enlist the

aid of everyone who can contribute ideas to solving problems for the five commodities.

Though the teams share a common goal—to develop new and improved marketing methods that will upgrade farm income—their approaches are geared to the specific needs of each commodity.

Apples

The apple team opened its investigation by asking for the opinions of members of the apple industry, as well as agricultural leaders in the major apple regions. Individuals were invited to express their views on industry problems and ways to resolve them.

The team later launched a series of conferences with industry representatives in all the major producing regions, from Winchester, Va., to Yakima, Wash.

At the onset of their study, the eight-member team decided to focus on four general problem areas:

Quality. Are there better ways to preserve apple quality throughout the marketing chain? Should grading standards be revised to include condition factors? (Currently, apples are graded mainly by color.)

Supply. What can be done about burdensome oversupplies? In western New York alone, 3.5 million bushels rotted on trees last year, due to lack of markets.

Pricing. Are growers getting a fair price from processors? Growers don't think so, and have turned increasingly to marketing groups to gain bargaining leverage with packers and processors. Are apples "subsidizing" other products at retail fresh fruit counters? Charges have been leveled that retail apple prices are kept high to absorb losses when fruits having a less stable demand are marked down to attract customers.

Exports. How can the industry expand exports to make up for lost markets in the European Community (EC) and Latin America?

Eggs

Like the apple team, the egg team initiated its study by asking for opinions on marketing problems and prospects.

The team's main challenge is to find ways to achieve greater stability in volume and price. Over the past 3 years, egg prices have ranged from 40 to 80¢ per dozen, bringing extreme fluctuations in returns to producers. Moreover, prices last year averaged below production costs.

Second priority is being given to bolstering consumption. Egg use has been affected by adverse publicity linking cholesterol—which egg yolks contain—with heart disease. The link-up has not been proved conclusively—a fact the marketing team hopes to relay to the public.

The 20-member team is also exploring the possibilities of channeling more eggs into various relief and public assistance programs.

Further items on the agenda—a check on egg statistics to see if they accurately and completely relay the kinds of information needed for decision-making; and a search for ways to boost marketing and production efficiency.

Canning Peaches

This industry is confined almost entirely to California, home of the Clingstone peach. Nearly all the Clingstone crop is canned.

The peach team's biggest challenge is the oversupply problem. Last year, under a State marketing order, growers withheld about 35 percent of the Clingstone crop from the market in an attempt to tailor supply to demand.

The team is also probing grower-canner relationships; namely what to do about loss of bargaining power among growers. Part of the problem is that there are many growers with too many peaches vying for the business of about a dozen large canners.

Last November, California's State

Bureau of Marketing and area canners and growers launched a joint research effort into the troubled Clingstone peach industry. The USDA team is working closely with this program in an effort to supplement the findings of the California committee.

With an eye to expanding markets, the eight-member team is exploring: foreign trade, particularly ways to recoup markets lost to Australia and South Africa . . . new product development . . . vitamin fortification . . . marketing efficiency . . . advertising and promotion . . . consumer attitudes . . . and innovative ways to market the product, such as new styles of pack.

Potatoes

The potato marketing team will concentrate on marketing, research, statistics, production, and credit.

Though per capita consumption of potatoes has trended upward in recent years, oversupply continues to be the industry's biggest headache. In trying to develop advertising and promotion programs that will expand potato use, the team is particularly aiming to convince consumers that potatoes, cooked certain ways, aren't fattening.

Efforts to raise fresh market consumption at home are being matched by attempts to swell U.S. exports of processed potatoes. The team hopes to expand on the broad base already opening in Japan and the EC.

New approaches to shipping are also receiving attention. One innovation under study is the bulk-shipping of fresh market potatoes to terminal markets for packing in the quantities specified by local retailers (5- or 10-lb. bags, etc.).

Activities of the potato team have been closely followed by the industry's trade publications. To acquaint the public with its efforts, the team taped radio and TV messages for national distribution asking for opinions and ideas about ways to improve potato markets. (Cont.)

Pork

The pork study team's primary objective is to streamline the industry's pricing system.

Unlike beef, which is sold largely as fresh red meat, most pork is re-tailed as processed items. The result is a proliferation of prices that make it difficult to relate hog prices to those consumers pay for pork products.

The pricing system used for hogs and pork products has been blamed for the failure of the pork industry to keep pace with changing consumer tastes. Through an intensive review of pricing methods and distribution, the team hopes to make the pricing system better relay to producers the size, quality, and type of hog in greatest demand.

Improving the quality of pork products is also a top-priority item. Efforts in this direction have involved meetings with meat scientists, and a look at production as it relates to product quality in handling and marketing. The study group is also probing possibilities for the establishment of pork quality grades.

During its investigation, the study group has conferred with representatives from all phases of the pork business. On the team's invitation, interested members of the industry attended a conference in Washington on April 25-26 to discuss choices open to the industry. (16)

Tighter Pollution Controls Affect Poultry Processors

It's no secret that all firms in poultry slaughtering will face higher wastewater treatment costs as water pollution controls tighten.

Under proposed Federal water pollution control legislation, plants with private treatment will be required by 1976 to use the "best practicable control technology" currently available as defined by the administrator of the Environmental Protection Agency. By 1981, if zero discharge of pollutants is not achieved, plants will

be required to use the "best available control technology."

An ERS study now looks at the impact these costs will have on the entire industry.

ERS surveyed 386 Federally inspected plants that handle better than 90 percent of U.S. chicken and turkey production. The plants used 27.3 billion gallons of water in 1970.

ERS found 44 of the plants either had no treatment of wastewater or just primary treatment. These plants would be hardest hit meeting proposed standards requiring "best practicable control technology"—such as an anaerobic-aerobic lagoon system. Cost estimates run from \$1.5 million to \$4.5 million for the plants, with average plant investment \$35,000 to \$109,000.

Because the majority of these plants are small, and because the profit margin in poultry is small, these firms might not have enough accumulated capital to make the changeovers and would need to get outside capital. However, since they accounted for only 7 percent of Federally inspected slaughter in 1970, the industry would not be affected in the long run should these firms have to close, nor would prices be expected to rise for the consumer.

Of the remaining plants surveyed—97 with private wastewater treatment facilities could likely meet "best practicable control technology" standards and 245 used municipal waste treatment facilities.

But the impact picture changes if plants were to be legally required to use the current "best available control technology"—such as extended aeration. Only eight of the surveyed firms used this method.

The investment to meet these standards was more than twice as large as to meet those of the "best practicable control technology."

For the 141 firms with private treatment facilities or none at all, costs would run from \$21 million to \$60 million, with average plant investment between \$149,000 and \$424,000. Operating and maintenance costs would be 8.2¢ to 22.6¢ per 100

pounds liveweight slaughter.

At the time of the study, the average cost to plants with private or municipal treatment was 5.2¢ per 100 pounds liveweight slaughter.

Since these firms account for 30 percent of Federally inspected poultry, the impact of such costs would be felt in the industry. The firms would need substantial outside capital, and, at the consumer level, poultry prices would go up.

For the 245 firms using municipal waste treatment facilities, costs would also go up as municipalities increase water and sewer services to make industry pay more equitable costs. The firms spent \$4.6 million for wastewater treatment in 1970.

One consequence of stricter water controls will be that firms will seek other, less expensive, ways to reduce waste treatment costs—such as reducing both water use and wasteload. Less water could be used, for instance, by finding another way to move byproducts from processing areas to collection points.

Lower treatment costs could also be achieved by keeping byproducts out of the plant effluent.

While nearly all feathers and offal were kept out of final wastewaters in the 1970 study, about 15 percent of the third main byproduct, blood, went into treatment facilities. Also, a large number of plants reported not salvaging grease. There is a market for these byproducts, primarily in protein supplements for animal feeds.

The study noted that, in the past 15 years, plants have in fact been making better use of byproducts.

A similar study in 1955 of 343 poultry plants showed they salvaged only 44 percent of the blood and actually used only about a third. While the firms kept nearly all offal and feathers out of final plant wastewaters, they dumped, rather than used, about a fifth of the offal and a third of the feathers. No plants did any rendering in the 1955 study, but by the 1970 survey, plants were rendering about 25 percent of the byproducts. (17).



The almanac of world agriculture so far in '72 is loaded with weather reports—most of them bad. Spring drought in Eastern Europe . . . winterkill of Soviet crops . . . severe winter in Turkey . . . lingering effects of dry weather in the Argentine.

All in all, the year is not shaping up to be as good as 1971. Things could improve in the months to come, but the early season setbacks are not being taken lightly.

The long view of global agriculture looks fairly optimistic. Since the mid-1950's, worldwide production has been trending steadily upward.

Output per capita has been moving up faster in the industrialized countries than in the less developed areas where caloric and protein deficiencies are chronic problems. But the less developed countries are coming closer to self-sufficiency in agriculture. They are using more high-yielding seeds, fertilizers, pesticides, irrigation, machinery, and other inputs to boost the quantity and quality of food production. India, a dramatic example, is now better able to feed its burgeoning population than at any time in the last decade.

Most nations share a common ambition to accelerate output of meat

and livestock products—a goal which is reflected in intensified programs to up feed grain and forage production. U.S. farmers should benefit from the situation with expanded feed grain exports.

In general, the outlook is good for our export sales this calendar year. American farmers may be called upon to fill the gap in countries where weather has reduced potential production. Among the commodities in tight world supply are cotton, soybeans, and protein meal.

ERS's region-by-region analysis of world developments is given in the pages that follow.

Western Hemisphere

Keeping up with population growth is no easy task for most nations in the Western Hemisphere.

Last year, food output per person edged lower in practically every country of South America. In Central America, only Honduras and Panama posted increases in per capita food production when sugar is excluded.

Though 1971's agricultural output moved higher for the Hemisphere as a whole, the performance was spotty. Biggest gains—not counting the U.S.—showed up in Canada, Mexico, Brazil, and most of Central America. With lower production were Argentina, Ecuador, Paraguay, Uruguay, Jamaica, Haiti, Trinidad, and Tobago. Chile, Peru, and Colombia had little or no growth.

This year, early indications point to a larger grain crop in Canada and throughout much of South America. However, a reduced harvest in Argentina might hold the region's combined grain production near the 1971 level.

In some cases, vagaries of weather are to blame for lagging farm output. Argentina still suffers the aftermath of a severe drought in late 1971, and its grain production will plummet 15 percent or more in the 1971/72 crop year. Venezuela's farm prospects are clouded by rain damages in the main crop areas.

In Brazil, weather is the farmer's relentless adversary, heavily influencing production. Farmers in southern Brazil last year had a growing season that was too dry, and a harvest season that was too wet. Despite the setbacks, Brazil's total output grew 6 percent, thanks to a 140-percent jump in coffee. This year, another large soybean crop seems assured (1971 was a record) and the 1972 coffee crop looks at least as good as last year's.

In other countries, agricultural

progress is thwarted by structural problems. Chile, for example, expects smaller output in 1972 partly because shortages of inputs (mainly fertilizer, machinery, and machine parts) have led to reduced plantings for some crops and lower yields for other crops.

A number of countries in this Hemisphere are changing their policies toward agriculture, and it remains to be seen how these will affect future production. To illustrate, the Mexican Government is promoting oilseed crops at the expense of feed grains. Other shifts in Mexico's policies suggest it will be growing less wheat and importing more.

The Canadian Government in 1971

and early 1972 passed several laws affecting farmers: one sets up a nationwide network of marketing agencies; another act establishes new grade standards for grains in an effort to facilitate exports; a third measure promotes livestock raising through incentive payments to farmers who switch from crops and summer fallow to forage crops.

In Peru and Chile, agrarian reform is changing the face of land use. Under Chile's program, part of a national socialization plan launched last year, large farm holdings have been passed from private hands to state control, whereas in Peru, huge estates are being expropriated for resale to small farmers. (18)

Western Europe

How to dispose of the grain surplus is foremost in the minds of the agricultural leaders of Western Europe.

Attempts to discourage overproduction in 1971 proved no match for good weather and stepped-up use of inputs, which combined to produce the second record grain crop in 3 years. The European Community (EC), where most of the increase occurred, has budgeted almost \$900 million for its 1972 grain support program.

The EC has three main alternatives for disposing of soft wheat which is in biggest surplus—channeling it into feed via denaturing subsidies, adding more wheat to stocks, and exporting under heavy subsidy.

All three devices will again be brought into play this year, but the surplus problem will be around for some time to come. The EC agreed to stockpile, rather than export, an additional 1.5 million tons during

negotiations with the U.S. Thus beginning wheat stocks for 1972/73 will mount to at least 6 million tons, up from 4.5 million in the previous year.

Grain output in Western Europe will continue at high levels in 1972, assuming normal weather. Most EC countries expanded their grain area, and only France (as of late April) has cut back on soft wheat plantings.

In the non-EC countries, a larger wheat area was sown in the U.K., Sweden, and Finland. Barley production should increase throughout Western Europe, paced by a lively demand from the hog industry.

Several of the big corn producing countries—France, Spain, West Germany, and Greece—expect continued production increases of this grain.

Cattle numbers are trending downhill, though in 1972 they'll decline at a slower rate as herds are being rebuilt. Rising demand for some dairy products will spur milk production. Beef slaughter is seen higher in France and Italy.

Hog numbers reached a peak in the hog cycle last year, so increases in pork production are apt to taper off in '72 throughout most of Western Europe. (19)

Africa and West Asia

Two of the top agricultural countries in Africa and West Asia, South Africa and Turkey, came through with flying colors. Both nations harvested bumper crops in 1971, providing considerable thrust to total production in the region which rose about 4 percent.

South Africa's 7-percent gain was traced to better crops of wheat, corn, peanuts, and sugar. This year, the Republic is counting on record production of deciduous fruits as well as wheat, and near records for corn, grain sorghum, and tobacco. The sheep and goat outlook, less optimistic, calls for further reduction in herds to the smallest ever.

For Turkish agriculture, 1971 will go down as the best year to date. Grain production—led by an alltime high for wheat—bulged nearly a third, and the cotton crop was roughly a fourth larger than in 1970.

In 1972, however, poor weather promises to cut sharply into the wheat crop. Filberts will be more plentiful than a year ago, as will olives, pistachios, and some types of meat.

On the whole, the Africa and West Asia region would be doing well this year if it succeeds in equalling the strong showing of 1971. Total agricultural production in Africa was well above 1970, and surpassed the 3-percent long term growth rate. Food output per capital rose 3 percent.

Zambia had the steepest increase of all; its commercial crop production about doubled. In Nigeria, Africa's largest producer, subsistence crops gained moderately. Peanuts, recovering from a bad 1970 crop, shot up 30 percent. Egypt, No. 3 in agriculture, harvested more grain but less cotton, which is by far the country's most valuable crop.

In West Asia, the greatest production loss was suffered by Iran—the area's second largest producer. Dry weather caused an 8-percent drop in total output, mainly in wheat though rice was also down. (20)

Communist Areas

"The Year of the Hog" in the Chinese calendar was indeed a bountiful one for hogs in the People's Republic of China, and—for that matter—throughout the Communist areas.

China's hog inventory in 1971 reportedly swelled by 11 percent. Eastern Europe's hog numbers increased 11 percent to an alltime high, and the USSR's by 6 percent.

Livestock output in general is on the upswing in the Communist countries, where a determined effort is being made to produce more high-protein foods.

China is waging a campaign to improve pastures for livestock, while in the USSR, the goal is to boost feed grain production by 20-30 percent by 1975. The Soviets made record feed grain purchases last year, including 3.5 million tons from U.S. dealers. In Eastern Europe, national policies are becoming more conducive to livestock expansion, such as higher price guarantees to growers.

Other agricultural sectors in the Communist areas also fared relatively well in 1971. The Soviets harvested a near-record grain crop and a record cotton crop. Farm production in Eastern Europe, recovering from a poor showing in 1970, advanced 5 percent, and a number of crops were the biggest in history. Notwithstanding drought conditions, floods, and insects, China's crops were almost as big as in 1970—an exceptionally good year.

In 1972, prospects look brighter in the People's Republic. However, in the USSR 1972 got off to a bad beginning. Frigid temperatures and inadequate snow cover led to heavy winterkill of fall sown crops in the USSR, and severe winter conditions in some areas may have taken its toll on livestock. In Eastern Europe, extremely dry weather may have damaged fall sown grain crops. (22)

Far East and Oceania

The Far East's success story in agriculture is being written in India.

In 1972, that country will come closer to self-sufficiency in food production than at any time in the last decade. Record 1971 outturns of wheat and rice will stage a repeat performance this year. Some commodities, though, are still in short supply, especially cotton and vegetable oils.

Along with India, most nations in the Far East maintained or expanded total agricultural output in 1971. Exceptions were Bangladesh, Pakistan, Cambodia, Ceylon, and Japan. Of

these, the first three were involved in military conflicts. Japan's decrease reflects a deliberate cut in rice output in order to reduce its surplus. In place of rice, farmers are being encouraged to produce beef, vegetables, soybeans, and mulberry trees for the silk industry.

Indonesia and Malaysia show steady gains in agriculture overall, but neither country is yet able to reach self-sufficiency in rice. Also, the price outlook is not good for Malaysia's mainstay exports of rubber and palm oil.

In Oceania, Australia in 1971 chalked up at least two export records—for wheat and beef. More beef will be available for export in '72. In New Zealand, prospects are looking up for milk and wool after years of low farm prices. (21)

Foreign Palm Oil Slips Into U.S. Shortening Market

If there's one family that causes problems for the American oilseed producer, it's the palm family.

The palm family, native to Africa, provides four kinds of oil—coconut, babassu kernel, palm kernel, and palm. Palm oil is the most troublesome one at this time.

U.S. supplies of palm oil, all imported duty free, have quadrupled since 1967. It's still a drop in the bucket compared to our total use of edible oils, accounting for a mere 4 percent of the market.

But palm oil is regarded as a competitive threat to domestically produced oils made from soybeans and cottonseed. The combined use of edible oils (including corn and peanut) sagged from 8 billion pounds in 1970 to 7.8 billion just 2 years later. Palm oil use, however, rose from 133 million pounds to 325 million estimated for 1972.

Imports of palm oil this year are estimated at 350 million pounds, a 50-percent increase from 1971, bringing total supplies to a record 400

million—up from 100 million 5 years ago.

Palm oil has a number of industrial uses—for soapmaking, tin plating, as a lubricant—though the most important is in food products, mainly shortening manufacture. Again, palm

oil far from dominates this market. Only 140 million pounds of palm oil went into shortening in 1971, versus about 3 billion pounds for soybean and cottonseed oils.

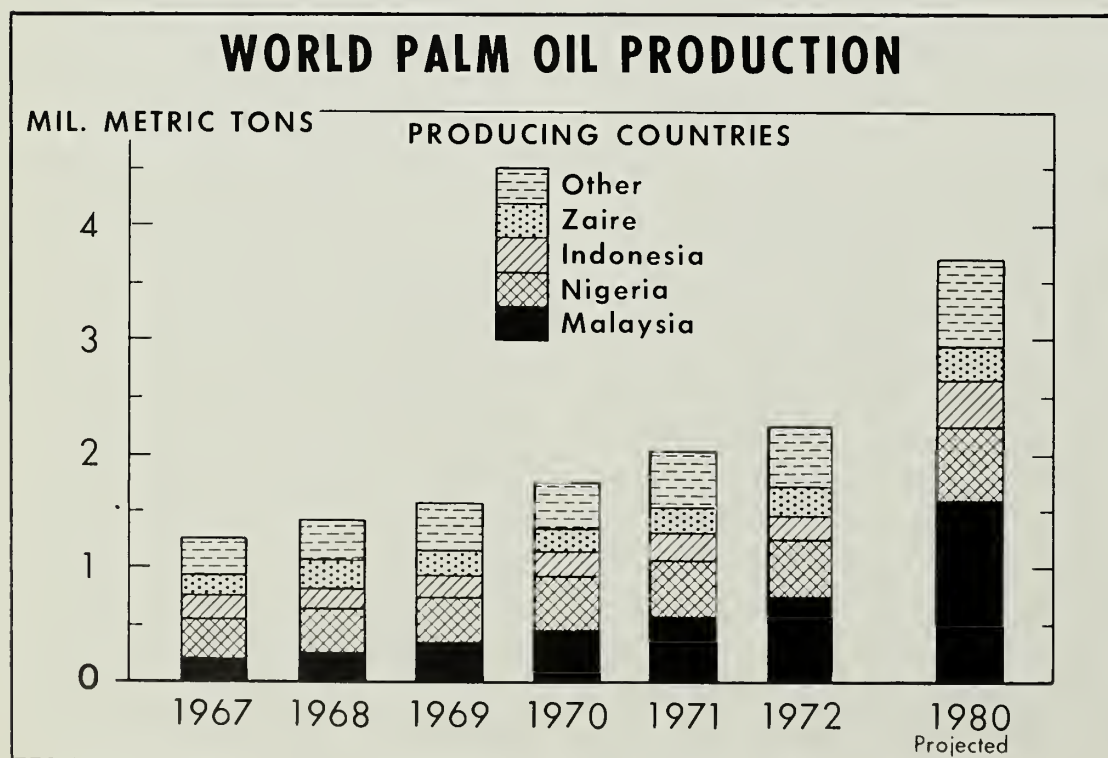
The spurt in palm oil imports over the past couple of years may be only a taste of what's to come, say the specialists who follow fats and oils developments. World palm oil output is increasing at a rate that could lead to a doubling of production by 1980.

As it is, palm oil competes keenly with U.S. edible vegetable oils from a price standpoint, and bigger production would enable still lower palm oil prices. The price in 1971 was 10¢ a pound, f.o.b. producing countries. Even with transportation costs added, this is well under prices of domestic edible oils. One reason for the relatively low price of palm oil is that it yields more oil per acre than any other oil-bearing plant: from 1½ to 2 tons per acre compared with U.S. soybean yields of around 300 pounds.

Much of the world expansion in palm oil output is happening in Malaysia, the leading palm producer, but production is also climbing



MALAYSIA WILL STAY NO. 1 in palm oil. The United Nations estimates that country by 1980 will produce over 40 percent of the world total, 2½ times more than any other supplier. Its share of global palm oil exports is expected to rise to about two-thirds of the market. Above, Malaysian settler shows his baskets of harvested palm fruit, which he'll load onto a truck for shipment to a nearby factory for processing. Oil palms, unlike most oilseed crops, are perennials and they remain commercially productive for as many as 30 years.



rapidly in Indonesia, Zaire (in Africa), Ivory Coast, and Nigeria. These five countries account for four-fifths of the world production, estimated at 2.3 million metric tons in 1972.

Large areas have been planted to

oil palms in recent years, many of which have yet to reach the bearing stage. The palms being planted are the new high-yielding varieties, whose fruit has a higher proportion of pulp—containing the palm oil—and a smaller nut than other types.

According to a United Nations study, world palm oil production will reach 3.7 million tons by 1980, or 110 percent more than in 1970. Export availabilities, increasing even faster than output, will reach some 2 million tons, triple the 1970 level. (23)

Recent Publications

PEOPLE WITH FARM EARNINGS: SOURCES AND DISTRIBUTION OF INCOME. Edward L. Reinsel, Farm Production Economics Division, ERS 498.

During 1963–69, growth in wages and salaries and other off-farm income improved average income levels of people with farm earnings and probably brought about more equal income distribution. Nevertheless, many of these people continued to report low incomes. More traditional farm programs may remain necessary in rural areas where the potential for growth in off-farm jobs is minimal.

DIRECT AND CONTRACT HIRING OF SEASONAL FARM LABOR. Walter E. Sellers, Jr., Farm Production Economics Division. Stat. Bull. 478.

One of the most important problems facing the farmer is that of obtaining a sufficient supply of farm labor when he needs it. The seasonal nature of farming makes this an annually recurring problem. Even with mechanization and family labor available, most farmers still need to hire some help. The proportion of farmers hiring labor varies from 58 percent of livestock farmers to 84 percent of fruit and nut growers.

COST OF PRODUCING COTTON IN THE SOUTHEAST, 1966. J. Gwyn Sutherland, Gerald A. Carlson, and Dale M. Hoover, North Carolina Agricultural Experiment Station in cooperation with Farm Production Economics Division. Economics In-

The publications listed here are issued by the Economic Research Service and cooperatively by the State universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from the Farm Index, OMS U.S. Department of Agriculture, Washington, D.C. 20250 State publications (descriptions below include name of experiment station or university of the title) may be obtained only by writing to the issuing agencies of the respective States.

formation Report No. 25.*

Much of the variability in average costs per pound of lint can be explained by farm size, yield, and the ratio of actual yield to projected yield variables. Cost curves indicate only minor reductions in total and direct costs can be expected by increasing cotton acreage above 40 acres per farm.

SUPPLYING U.S. MARKETS WITH FRESH WINTER PRODUCE: CAPABILITIES OF U.S. AND MEXICAN PRODUCTION AREAS. C. John Fliginger, Foreign Demand and Competition Division; Earle E. Gavett, Farm Production Economics Division; Joseph C. Podany and Levi A. Powell, Sr., Marketing Economics Division. Supplement to AER 154.

Continued growth in the amount of fresh vegetables imported into the

U.S. from Mexico has increased the importance of Mexico as a supply area to U.S. consumers, but has caused mounting pressures on domestic producers. Tomatoes continue to be the most important of the imported fresh winter vegetables. Imports of winter cucumbers and peppers will continue to increase. Both domestic supplies and imports of cantaloups and strawberries are expected to rise as demand grows.

SYNTHETICS AND SUBSTITUTES FOR AGRICULTURAL PRODUCTS: PROJECTIONS FOR 1980. William W. Gallimore, Marketing Economics Division. MRR 947.

Although synthetics and substitutes will not cause major adjustment problems for agriculture in the seventies, they continue to replace many traditional foods and beverages. Substitution of more vegetable protein for animal products probably will generate far-reaching changes in consumption patterns over the next 10 years.

WORLD DEMAND PROSPECTS FOR GRAIN IN 1980 WITH EMPHASIS ON TRADE BY THE LESS DEVELOPED COUNTRIES. Anthony S. Rojko, Francis S. Urban, and James J. Naive, Foreign Demand and Competition Division. FAER 75.

This study focuses on the long-term demand for grain, especially from the perspective of potential exports of LDC's. The prospects of LDC earnings from grain exports vary with the grain.

ORGANIZATION AND PRACTICES IN SELECTED TERMINAL WHOLESALE FLOWER MARKETS IN THE SOUTH. Stephen M. Raleigh, Jr., Marketing Economics Division. MRR 951.

Southern regional returns of a 1970 national study indicate that wholesale flower markets in Atlanta, Baltimore, Washington, and Dallas-Fort Worth are highly specialized. Very few firms selling major cut flowers handle many other products such as florist greens or supplies, and many do not produce any of the perishables they sell. Sales of all 22 firms interviewed in 1970 totaled \$16.9 million. Individual market sales ranged from \$2.5 million in Atlanta to \$5.3 million in Washington.

COST OF STORING AND HANDLING GRAIN IN COMMERCIAL ELEVATORS, 1970-71 AND PROJECTIONS FOR 1972-73. Allen G. Schienbein,

Marketing Economics Division. ERS 501.

This report, based upon a new survey of elevator cost data collected from a sample of 251 elevators in the fall of 1971, represents costs associated with 1970-71 structure and practices of the commercial grain elevator industry. Also included in the report is a special study of 30 inland and port terminals showing capital and operating costs associated with dust control systems.

THE EUROPEAN FREE TRADE ASSOCIATION WITHOUT THE UNITED KINGDOM, DENMARK, AND NORWAY: IMPLICATIONS FOR AGRICULTURAL EXPORTS OF THE REMAINING EFTA COUNTRIES AND THE UNITED STATES. James Lopes and Donald M. Phillips, Jr., Foreign Demand and Competition Division. ERS For. 338.

This report focuses on the agricultural exports of the EFTA neutrals to the EC applicants, with the objective of highlighting the major difficulties likely to result from new import conditions in the applicants' markets. In addition, the report briefly examines the size and composition of U.S. agricultural exports to the EFTA neutrals and the EC countries.

AGRICULTURAL PROSPECTS IN ARGENTINA. Francis S. Urban, Foreign Demand and Competition Division. ERS For. 331.

This report is a brief review of Argentina's projections of supply and demand for selected agricultural products through 1980. The study is one of a series initiated by USDA to evaluate longrun potential of, and demand for, agricultural products throughout the world.

Article Sources

State publications indicated by (*) may be obtained only from the experiment station or university cited. Manuscripts and special material are usually available only on request to authors.

1. and 2. Ronald L. Mighell, FPED, and William S. Hoofnagle, MED. *Contract Production and Vertical Integration in Farming, 1960 and 1970*, ERS 479.
3. Dorwin Williams, FPED, and Carrol Kirtley, University of Missouri. *Changes in Capital Investments Managed by Selected Missouri Farm Operators, 1965-69* (manuscript).
4. Boyd M. Buxton, FPED, and Michael L. Holmberg, University of Minnesota. *Can Modern Dairy Farms Compete for Hired Labor?* (manuscript).
5. Edgar L. Michalson, formerly FPED, and Wayne C. Thomas, Washington State University. *Economics of Asparagus Production and Harvest Mechanization in Washington* (manuscript).
6. Melvin R. Janssen, EDD (special material).
7. Erling D. Solberg and Ralph R. Pfister, for NRED. *Recent Innovations and Trends in Zoning Enabling Laws* (manuscript).
8. Dean T. Massey, NRED (special material).
9. Vera J. Banks, EDD. *Farm Population of the United States: 1971* (manuscript).
10. EDD. *Rural Development Chartbook*, ERS 500.
11. Masao Matsumoto, EDD. *The Impact of the Food Stamp Program on a Local Economy: An Input-Output Analysis of Three Counties* (manuscript).
12. David Brewster, ESAD (special material).
13. Harold B. Jones, MED, stationed at the University of Georgia, Athens. *The Market Potential for Further Processed Poultry Products* (manuscript).
14. L. Yvonne Clayton, Statistical Reporting Service, and Lorna R. Sherman, National Analysis, Inc., Philadelphia. *Homemakers Opinions About Fibers In Selected Household Items: A Nationwide Survey* (manuscript).
15. Forrest E. Scott and Henry T. Badger, MED. *Farm-Retail Spreads for Food Products*, Miscellaneous Publication No. 741.
16. Robert W. Bohall and George B. Rogers, MED; Jack H. Armstrong, Farmer Cooperative Service; Norman C. Healy, Agricultural Marketing Service; Edward D. Hews, Agricultural Stabilization and Conservation Service; and Jerome B. Siebert, Office of the Secretary (special material).
17. James G. Vertrees, MED. *The Poultry Processing Industry: A Study of the Impact of Water Pollution Costs* (manuscript).
18. FDCE. *The Agricultural Situation in the Western Hemisphere: Review of 1971 and Outlook for 1972*. ERS For. 334.
19. FDCE. *The Agricultural Situation in Western Europe: Review of 1971 and Outlook for 1972*. ERS For. 333.
20. FDCE. *The Agricultural Situation in Africa and West Asia: Review of 1971 and Outlook for 1972*. ERS For. 335.
21. FDCE. *The Agricultural Situation in the Far East and Oceania: Review of 1971 and Outlook for 1972*. ERS For. 337.
22. FDCE. *The Agricultural Situation in the Communist Areas: Review of 1971 and Outlook for 1972*. ERS For. 336.
23. George W. Kromer, ESAD. "Palm Oil, A Fast-Rising Competitor of U.S. Fats and Oils," *The Fats and Oils Situation*, FOS-262.
24. Steve Kimbel, Animal and Plant Health Inspection Service. "Exotic Newcastle and a Plan To Combat It," *Poultry and Egg Situation*, PES-271.

NOTE: Unless otherwise indicated, authors are on the staff of the Economic Research Service (ERS) with their divisions designated as follows: Economic and Statistical Analysis Division (ESAD); Economic Development Division (EDD); Farm Production Economics Division (FPED); Foreign Demand and Competition Division (FDCE); Foreign Development Division (FDD); Marketing Economics Division (MED); and Natural Resource Economics Division (NRED).

Economic Trends

| Item | Unit or Base Period | 1967 | 1971 | | 1972 | | |
|---|------------------------|--------|--------------------|---------|-------------------|-------------------|--------------------|
| | | | Year | Mar. | Jan. | Feb. | |
| Prices: | | | | | | | |
| Prices received by farmers | 1967=100 | — | 112 | 111 | 120 | 122 | 120 |
| Crops | 1967=100 | — | 108 | 107 | 111 | 111 | 107 |
| Livestock and products | 1967=100 | — | 116 | 114 | 126 | 131 | 129 |
| Prices paid, interest, taxes and wage rates | 1967=100 | — | 120 | 118 | 123 | 124 | 124 |
| Family living items | 1967=100 | — | 119 | 117 | 121 | 123 | 123 |
| Production items | 1967=100 | — | 115 | 114 | 118 | 118 | 119 |
| Ratio ¹ | 1967=100 | — | 94 | 94 | 98 | 98 | 97 |
| Wholesale prices, all commodities | 1967=100 | — | 113.9 | 113.0 | 116.3 | 117.3 | 117.4 |
| Industrial commodities | 1967=100 | — | 114.0 | 112.8 | 115.9 | 116.5 | 116.9 |
| Farm products | 1967=100 | — | 112.9 | 113.0 | 117.8 | 120.7 | 119.7 |
| Processed foods and feeds | 1967=100 | — | 114.3 | 113.7 | 117.2 | 118.8 | 118.6 |
| Consumer price index, all items | 1967=100 | — | 121.3 | 119.8 | 123.2 | 123.8 | 124.0 |
| Food | 1967=100 | — | 118.4 | 117.0 | 120.3 | 122.2 | 122.4 |
| Farm Food Market Basket: ² | | | | | | | |
| Retail cost | Dollars | 1,081 | 1,244 | 1,226 | 1,274 | 1,297 | 1,292 |
| Farm value | Dollars | 419 | 477 | 475 | 511 | 515 | 502 |
| Farm-retail spread | Dollars | 662 | 767 | 751 | 763 | 782 | 790 |
| Farmers' share of retail cost | Percent | 39 | 38 | 39 | 40 | 40 | 39 |
| Farm Income: ³ | | | | | | | |
| Volume of farm marketings | 1967 | 100 | 108 | 83 | 116 | 85 | 85 |
| Cash receipts from farm marketings | Million dollars | 42,693 | 51,633 | 3,458 | 4,692 | 3,763 | 3,800 |
| Crops | Million dollars | 18,434 | 21,875 | 1,001 | 2,110 | 1,170 | 1,000 |
| Livestock and products | Million dollars | 24,259 | 29,758 | 2,457 | 2,583 | 2,593 | 2,800 |
| Realized gross income ⁴ | Billion dollars | 49.0 | 58.6 | 56.8 | — | — | 62.3 |
| Farm production expenses ⁴ | Billion dollars | 34.8 | 42.9 | 42.2 | — | — | 44.0 |
| Realized net income ⁴ | Billion dollars | 14.2 | 15.7 | 14.6 | — | — | 18.3 |
| Agricultural Trade: | | | | | | | |
| Agricultural exports | Million dollars | — | 7,695 | 715 | 770 | 715 | 669 |
| Agricultural imports | Million dollars | — | 5,825 | 500 | 576 | 591 | 507 |
| Land Values: | | | | | | | |
| Average value per acre | 1967 = 100 | — | ⁶ 205 | — | — | — | ⁶ 205 |
| Total value of farm real estate | Billion dollars | — | ⁶ 221.1 | — | — | — | ⁶ 221.1 |
| Gross National Product: ⁴ | | | | | | | |
| | Billion dollars | 793.9 | 1,046.8 | 1,020.8 | — | — | 1,103.2 |
| Consumption | Billion dollars | 492.1 | 662.1 | 644.9 | — | — | 690.2 |
| Investment | Billion dollars | 116.6 | 151.6 | 143.3 | — | — | 167.6 |
| Government expenditures | Billion dollars | 180.1 | 233.0 | 227.9 | — | — | 250.4 |
| Net exports | Billion dollars | 5.2 | .0 | 4.7 | — | — | -5.1 |
| Income and Spending: ⁵ | | | | | | | |
| Personal income, annual rate | Billion dollars | 629.3 | 857.0 | 838.3 | 892.8 | 901.8 | 905.1 |
| Total retail sales, monthly rate | Million dollars | 26,151 | 34,071 | 33,274 | 34,886 | 35,127 | 35,996 |
| Retail sales of food group, monthly rate | Million dollars | 5,759 | 7,437 | 7,372 | 7,387 | 7,590 | — |
| Employment and Wages: ⁵ | | | | | | | |
| Total civilian employment | Millions | 74.4 | 79.1 | 78.4 | ⁷ 80.6 | ⁷ 80.6 | ⁷ 81.2 |
| Agricultural | Millions | 3.8 | 3.4 | 3.4 | ⁷ 3.4 | ⁷ 3.4 | ⁷ 3.5 |
| Rate of unemployment | Percent | 3.8 | 5.9 | 6.0 | 5.9 | 5.7 | 5.9 |
| Workweek in manufacturing | Hours | 40.6 | 39.9 | 39.7 | 39.8 | 40.1 | 40.3 |
| Hourly earnings in manufacturing, unadjusted | Dollars | 2.83 | 3.57 | 3.52 | 3.71 | 3.72 | 3.74 |
| Industrial Production: ⁵ | 1967 = 100 | — | 106 | 106 | 108 | 109 | 110 |
| Manufacturers' Shipments and Inventories: ⁵ | | | | | | | |
| Total shipments, monthly rate | Million dollars | 46,458 | 57,911 | 57,790 | 61,350 | 61,865 | — |
| Total inventories, book value end of month | Million dollars | 84,563 | 100,549 | 100,502 | 100,876 | 101,033 | — |
| Total new orders, monthly rate | Million dollars | 46,707 | 57,724 | 57,699 | 62,996 | 62,514 | — |

¹ Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. ² Average annual quantities of farm food products purchased by urban wage-earner and clerical worker households (including those of single workers living alone) in 1959-61—estimated monthly. ³ Annual and quarterly data are on 50-State basis. ⁴ Annual rates seasonally adjusted first quarter. ⁵ Seasonally adjusted. ⁶ As of November 1, 1971. ⁷ Beginning January 1972 data not strictly comparable with prior data because of adjustment to

1970 Census data.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

**UNITED STATES GOVERNMENT PRINTING OFFICE
DIVISION OF PUBLIC DOCUMENTS, WASHINGTON, D.C. 20402**

OFFICIAL BUSINESS

POSTAGE
& FEES PAID
U.S. DEPT.
OF
AGRICULTURE



To stop mailing ☐ or to change your
address ☐ send this sheet with new
address to The Farm Index, OMS, U.S.
Department of Agriculture, Rm. 1459,
Washington, D.C. 20250.

The Farm Index

☆ U. S. GOVERNMENT PRINTING OFFICE: 1970 394-331/0